# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

#### LAKE TROPHIC DATA

#### MORPHOMETRIC:

Lake: HUNTRESS POND		Lake Area (ha):	21.53
Town: BARNSTI	EAD	Maximum depth (m):	6.1
County: Belknap		Mean depth (m):	2.7
River Basin: Merrima	ck	Volume (m³):	577500
Latitude: 43°21'		Relative depth:	1.2
Longitude: 71°16'	34" W	Shore configuration:	1.28
Elevation (ft):	621	Areal water load (m/yr	
Shore length (m):	2100	Flushing rate $(yr^{-1})$ :	0.50
Watershed area (ha)	62.2	P retention coeff.:	0.86
<pre>% watershed ponded:</pre>	0.0	Lake type: natur	al w/dam

BIOLOGICAL:	8 January 1998	23 June 1997
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 70%	TABELLARIA 60%
#2	MALLOMONAS 20%	ASTERIONELLA 20%
#3		DINOBRYON 8%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		10.79
DOM. ZOOPLANKTON (% TOTAL) #1	PERITRICH CILIATE 70%	ROTIFER SPP. 22%
#2	CALANOID COPEPOD 7%	ASPLANCHNA 20%
#3	BOSMINA 6%	KERATELLA 15%
ROTIFERS/LITER	42	198
MICROCRUSTACEA/LITER	106	19
ZOOPLANKTON ABUNDANCE (#/L)	490	237
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		2.8
BOTTOM DISSOLVED OXYGEN (mg/L)		4.2
BACTERIA (E. coli, #/100 ml) #1		5
#2		
#3		

# SUMMER THERMAL STRATIFICATION:

## stratified

Depth of thermocline (m): 3.3 Hypolimnion volume  $(m^3)$ : None Anoxic volume  $(m^3)$ : None

CHEMICAL:			HUNTRESS BARNSTEAL		
	8 Janua	ary 1998	23 3	June 1997	
DEPTH (m)	2.0	4.0	2.0		4.0
pH (units)	6.4	5.8	6.2		6.5
A.N.C. (Alkalinity)	2.1	2.2	2.4		3.3
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.30	0.40	0.20		0.10
TOTAL PHOSPHORUS	0.010	0.012	0.018		0.024
CONDUCTIVITY (µmhos/cm)	31.4	31.1	29.8		30.1
APPARENT COLOR (cpu)	20	20	13		19
MAGNESIUM			0.50		
CALCIUM			1.3		
SODIUM			3.1		
POTASSIUM			0.67		
CHLORIDE	4	4	3		3
SULFATE	2	2	2		2
TN : TP	30	33	11		4
CALCITE SATURATION INDEX			4.6		

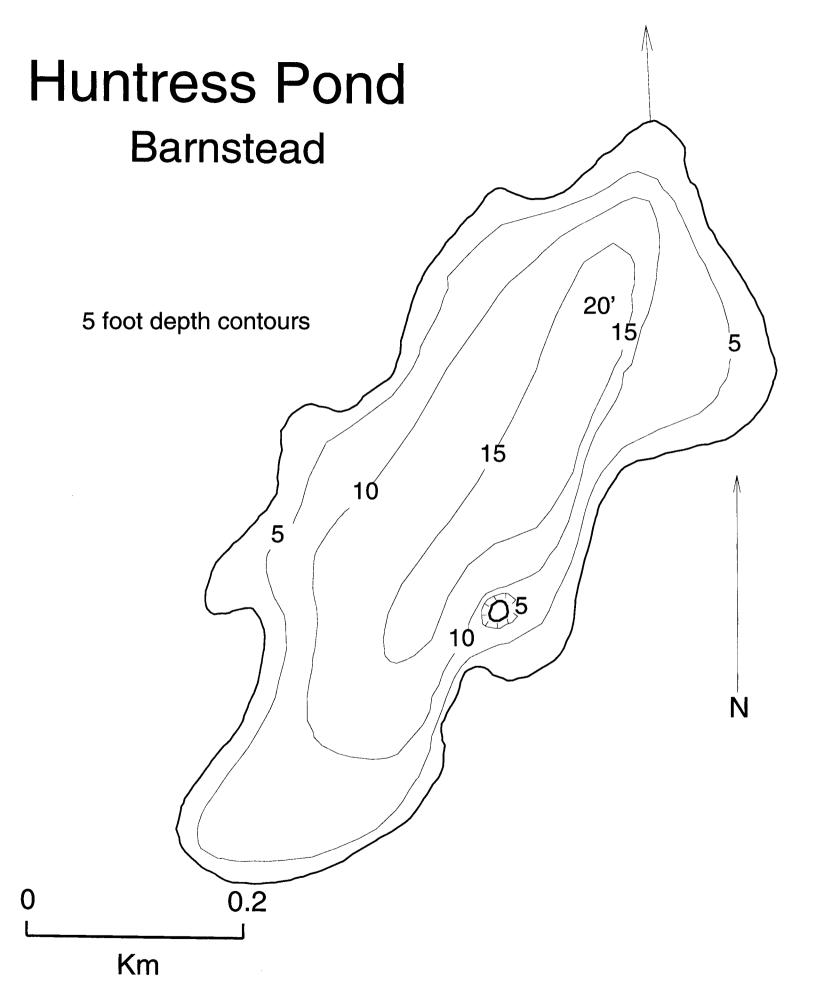
All results in mg/L unless indicated otherwise

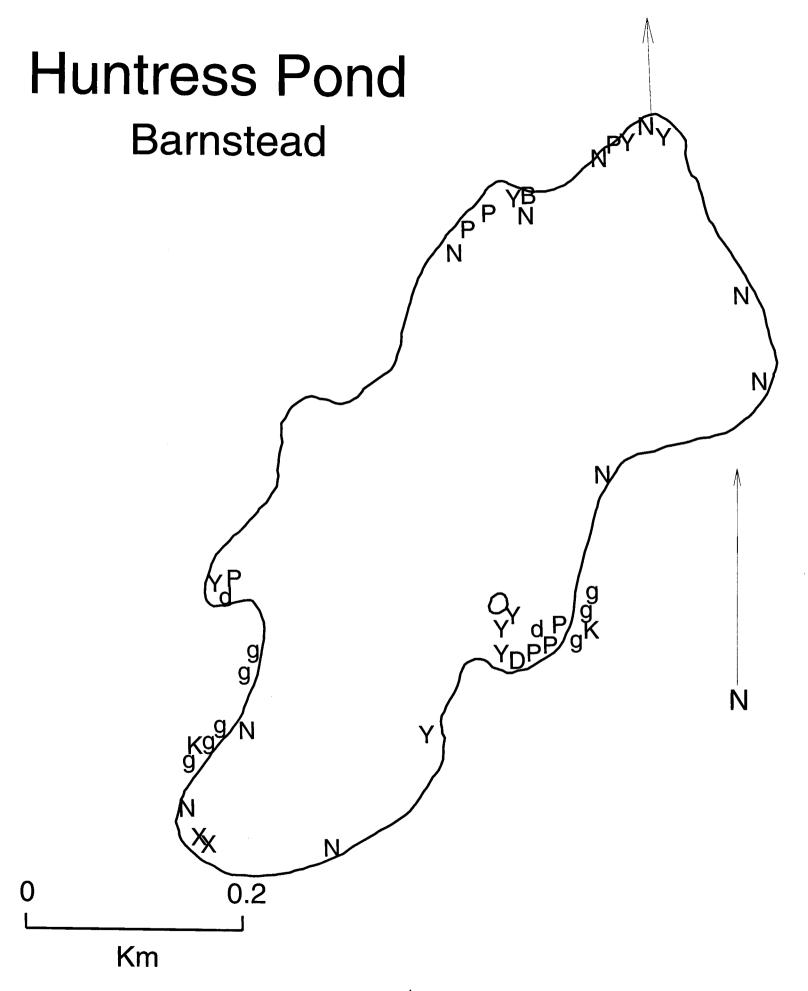
TROPHIC CLASSIFICATION: 1997

D.O.	;	S.D.	PLANT	CHL	TOTAL	CLASS
**		3	1	2	6	Meso.

### **COMMENTS:**

- 1. Previously known as Pinkham Pond.
- 2. This pond was previously surveyed and classified in 1982, and was rated eutrophic in 1982. The difference in water quality between the two years was in chlorophyll and dissolved oxygen. The pond had an Oscillatoria (blue-green algae) bloom on the 1982 sampling date, with a chlorophyll value double the 1997 value. Although the thermal stratification was similar in both years, there was essentially no dissolved oxygen at 5 meters in 1982 (it was 4.2 mg/L in 1997.)
- 3. Interestingly, the zooplankton abundance was greater in the winter than the summer.





#### FIELD DATA SHEET

LAKE: HUNTRESS POND

DATE: 06/23/97

TOWN: BARNSTEAD

WEATHER: SUNNY & WINDY

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.7	8.6	101 %
1.0	24.6	8.7	102 %
2.0	23.8	8.8	101 %
3.0	21.3	9.7	107 %
4.0	17.3	10.1	104 %
5.0	14.3	4.2	41 %

SECCHI DISK (m): 2.8

COMMENTS:

BOTTOM DEPTH (m): 5.6

TIME: 1150

\*Dissolved oxygen values are in mg/L

# AQUATIC PLANT SURVEY

LAK	E: HUNTRESS POND	TOWN: BARNSTEAD	DATE: 06/23/97
Сеу	PLANT NAME		ABUNDANCE
·Cy	GENERIC	COMMON	1120112111102
X		Sterile thread-like leaf	Sparse
N	Nymphaea	White water lily	Scattered
P	Pontederia cordata	Pickerelweed	Scattered
Y	Nuphar	Yellow water lily	Sparse
В	Brasenia schreberi	Water shield	Sparse
d	Dulichium arundinaceum	Three-way sedge	Sparse
D	Decodon verticillatus	Swamp loosestrife	Sparse
g	Myrica gale	Sweet gale	Sparse
K	Kalmia	Laurel	Sparse
			·

# **GENERAL OBSERVATIONS:**

1. A number of sand piles along the shore-presumably to create beaches-were observed.